

IN THE CLAIMS

Presented below are all the claims, including those added.

1. (Previously Presented) A method comprising:
transmitting data on a first virtual circuit in a network along one connection of a plurality of connections established in said first virtual circuit;
receiving a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and
switching transmission of said data from said first virtual circuit to said second virtual circuit in response to the message unless a predetermined gap in transmission of said data along said one connection is detected.
2. (Original) The method according to claim 1, wherein said network is an Internet Protocol (IP) network.
3. (Original) The method according to claim 1, wherein said network is an Asynchronous Transfer Mode (ATM) network.
4. (Original) The method according to claim 1, wherein receiving said message further comprises monitoring said first virtual circuit and said second virtual circuit.
5. (Previously Presented) The method according to claim 1, wherein said data are voice packets of a voice call and said predetermined gap is a result of a silent period in said call.
6. (Previously Presented) The method according to claim 1, wherein a predetermined bandwidth to support said plurality of connections is assigned to said first virtual circuit and said second virtual circuit.

7. (Previously Presented) The method according to claim 5, wherein said switching occurs such that said call is not dropped.

8. (Previously Presented) The method according to claim 1, wherein said switching further comprises transmitting data related to said one connection on said second virtual circuit.

9. (Previously Presented) The method according to claim 1, wherein said switching is performed on an individual connection-by-connection basis, so that others of said plurality of connections in said first virtual circuit that are not affected are not switched.

10. (Canceled).

11. (Previously Presented) A method comprising:

transmitting data on a first virtual circuit in a network along one connection of a plurality of connections established in said first virtual circuit;

receiving a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and

switching transmission of said data from said first virtual circuit to said second virtual circuit unless a predetermined gap in transmission of said data along said one connection is detected in which case a data packet signaling said predetermined gap is transmitted on the first virtual circuit.

12. (Previously Presented) The method according to claim 1, wherein said switching further comprises:

canceling transmission of said data along said one connection in said first virtual circuit;

establishing a second connection in said second virtual circuit; and

transmitting said data along said second connection in said second virtual circuit.

13. (Previously Presented) A method comprising:

transmitting data on a first virtual circuit in a network along one connection of a plurality of connections established in said first virtual circuit;

receiving a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and

switching transmission of said data from said first virtual circuit to said second virtual circuit unless transmission of said data along said one connection is complete in which case the message is discarded.

14. (Previously Presented) The method according to claim 1, wherein said one connection is a Voice over Internet Protocol (VoIP) connection.

15. (Previously Presented) The method according to claim 1, wherein said one connection is a Voice over Asynchronous Transfer Mode (VoATM) connection.

16. (Previously Presented) A method suitable for re-routing the flow of data packets in the event of a network failure, comprising:

providing first and second virtual circuits that connect a pair of end nodes in a network, wherein a connection between the end nodes can be established through either virtual circuit; and then

receiving data packets on the first virtual circuit at one of the end nodes; and then

transmitting on the first and second virtual circuits by said one of the end nodes messages to the other end node, in response to not having received a data packet for a predetermined period of time; and then

receiving on the second virtual circuit at said one of the end nodes data packets of said connection.

17. (Original) The method according to claim 16, wherein said network is an Internet Protocol (IP) network.

18. (Original) The method according to claim 16, wherein said network is an Asynchronous Transfer Mode (ATM) network.

19. (Previously Presented) The method according to claim 16, further comprising:
monitoring said first virtual circuit and said second virtual circuit at said one of the end nodes for a second predetermined period of time after transmitting said messages;
and

transmitting on the first and second virtual circuits by said one of the end nodes messages to the other end node, if a data packet of said connection is not received during said second predetermined period of time.

20. (Previously Presented) The method according to claim 16, wherein said predetermined period of time is selected so that said one of the end nodes does not interpret a short interruption in data packet flow as a network failure.

21. (Previously Presented) The method according to claim 19, wherein said second predetermined period of time is 250 milliseconds.

22. (Original) The method according to claim 16, further comprising monitoring said first virtual circuit and said second virtual circuit for said predetermined period of time.

23. (Original) The method according to claim 16, wherein a plurality of connections is established on said first virtual circuit.

24. (Previously Presented) The method according to claim 16, wherein said data packets are received along said connection being one of said plurality of connections established in said first virtual circuit.
25. (Previously Presented) The method according to claim 24, further comprising monitoring said connection for said predetermined period of time.
26. (Previously Presented) The method according to claim 24, further comprising detecting a failure on said connection in said first virtual circuit.
27. (Previously Presented) The method according to claim 26, wherein said detecting is performed subsequent to receiving an initial one of the data packets along said connection.
28. (Previously Presented) The method according to claim 22, wherein said monitoring is performed subsequent to receiving an initial one of the data packets on said first virtual circuit.
29. (Original) The method according to claim 23, wherein a predetermined bandwidth to support said plurality of connections is assigned to said first virtual circuit and said second virtual circuit.
30. (Previously Presented) The method according to claim 24, wherein said connection is a Voice over Internet Protocol (VoIP) connection.
31. (Previously Presented) The method according to claim 24, wherein said connection is a Voice over Asynchronous Transfer Mode (VoATM) connection.
32. (Previously Presented) An apparatus comprising:

means for transmitting data for a voice call on a first virtual circuit in a network;
means for receiving a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and

means for switching transmission of data for said voice call from said first virtual circuit to said second virtual circuit unless a gap in transmission of said data is determined to be due to a silent period in said voice call.

33. (Original) The apparatus according to claim 32, wherein said means for receiving further comprises means for monitoring said first virtual circuit and said second virtual circuit.

34. (Previously Presented) An apparatus comprising:

means for receiving data for a voice call on a first virtual circuit in a network;
means for transmitting a message on a second virtual circuit and said first virtual circuit in said network, if said data is not received for a predetermined period of time selected so that transmission of data can be switched from the first virtual circuit to the second virtual circuit without the voice call being dropped; and
means for receiving said data on said second virtual circuit in said network.

35. (Previously Presented) The apparatus according to claim 34, further comprising:

means for monitoring said first virtual circuit and said second virtual circuit for a second predetermined period of time; and
means for transmitting said message if said data is not received during said second predetermined period of time.

36. (Previously Presented) A computer readable medium having instructions which, when executed by a processing system, cause the system to:

transmit data for a voice call on a first virtual circuit in a network;

receive a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and

switch transmission of said data from said first virtual circuit to said second virtual circuit unless transmission of data for said voice call is complete in which case the message is discarded.

37. (Original) The medium of claim 36, wherein the executed instructions further cause the system to:

receive said message by monitoring said first virtual circuit and said second virtual circuit.

38. (Previously Presented) A computer readable medium having instructions which, when executed by a processing system, cause the system to:

receive data packets of a connection on a first virtual circuit in a network; and

then

transmit a message on a second virtual circuit and said first virtual circuit in said network, in response to a data packet of the connection not having been received for a predetermined period of time; and then

receive data packets of the connection on said second virtual circuit in said network.

39. (Previously Presented) The medium of claim 38, wherein the executed instructions further cause the system to:

monitor said first virtual circuit and said second virtual circuit for a second predetermined period of time after transmitting said message; and

transmit said message again if a data packet of the connection is not received during said second predetermined period of time.

40. (New) An apparatus comprising:

circuitry to transmit data for a voice call on a first virtual circuit in a network;

circuitry to receive a message on a second virtual circuit in said network, said message signaling a possible failure detected in said network; and

circuitry to switch transmission of data for said voice call from said first virtual circuit to said second virtual circuit unless a gap in transmission of said data is determined to be due to a silent period in said voice call.

41. (New) The apparatus according to claim 40, wherein said circuitry to receive further comprises circuitry to monitor said first virtual circuit and said second virtual circuit.

42. (New) An apparatus comprising:

circuitry to receive data for a voice call on a first virtual circuit in a network;

circuitry to transmit a message on a second virtual circuit and said first virtual circuit in said network, if said data is not received for a predetermined period of time selected so that transmission of data can be switched from the virtual circuit to the second virtual circuit without the voice call being dropped; and

circuitry to receive said data on said second virtual circuit in said network.

43. (New) The apparatus according to claim 42, further comprising:
- circuitry to monitor said first virtual circuit and said second virtual circuit for a second predetermined period of time; and
 - circuitry to transmit said message if said data is not received during said second predetermined period of time.